

G. P. PITKIN.
RADIATOR THERMOMETER.
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1,381,005.

Patented June 7, 1921.

Fig. 1.

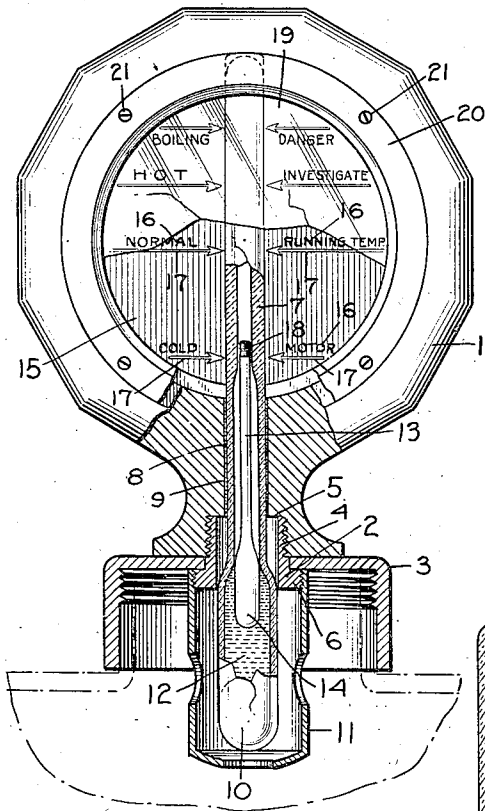


Fig. 2.

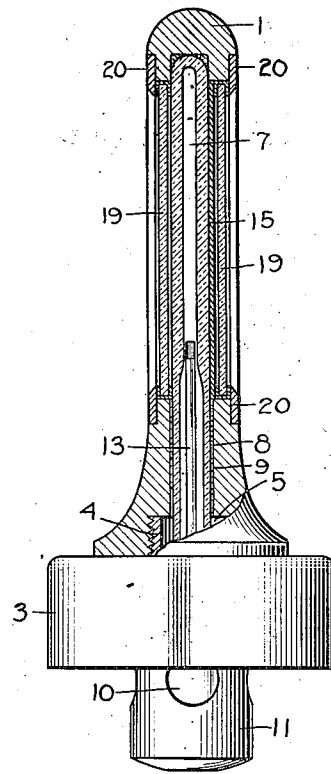
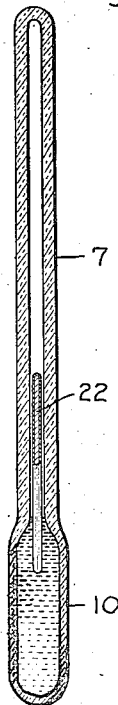


Fig. 3.



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RADIATOR-THERMOMETER.

1,381,005.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE P. PITKIN, a citizen of the United States, and a resident of Bergenfield, in the county of Bergen and State of New Jersey, have invented a new and Improved Radiator-Thermometer, of which the following is a full, clear, and exact description.

This invention relates to improvements in radiator thermometers, an object of the invention being to provide an improved radiator construction designed for use in connection with the radiators of automobiles and which can be read in the dark.

A further object is to provide an improved construction and arrangement of a luminous thermometer which can be utilized in connection with the radiators in general use and which is supported in and forms a part of the cap or closure for the radiator.

With these and other objects in view the invention consists in certain novel features of construction, and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view partly in elevation and partly in longitudinal section illustrating my improvements;

Fig. 2 is a view at right angles to Fig. 1, partly in longitudinal section and partly in elevation; and

Fig. 3 is a view in longitudinal section illustrating a modification.

1 represents a casing and 2 a tubular coupling which operates to connect the casing 1 with an internally screw threaded cap 3, the latter being adapted to screw onto the nipple of an ordinary automobile radiator.

The coupling 2 has a reduced externally screw threaded end 4 engaging in a screw threaded socket 5 in the base of casing 1. An annular screw threaded flange 6 is made integral with the coupling 2 and serves to clamp the cap 3 against the base of the casing 1 and also supports a perforated shield 11 screwed thereon and which will be more fully hereinafter described.

A thermometer 7, preferably of glass, is secured in a longitudinal bore 9 in the lower portion of the casing 1 preferably by means of cement or other similar material 8 located between the tube 7 and the metal of

the casing. A bulb 10 is located on the lower end of the tube 7 and housed within the shield 11, which latter protects the bulb against injury but does not interfere with the operation of the thermometer. An expansible liquid 12 is located within the bulb 10 and a float indicator 13 is movable in the tube 7 and has an enlarged lower end 14 located in the bulb 10 and moved by means of the expansion and contraction of the liquid.

This float 13 constitutes an indicator and registers with suitable captions 16 and marks 17 on a backing plate 15, which is secured in the casing 1. The captions and markings are readable at night because they are luminous or the surface of the backing plate is rendered luminous to set off the captions and markings. The upper end of the float 13 is colored, as indicated at 18, so that it can be readily seen as it registers with the markings on the backing plate, and this reading can be done at night as well as in the day time.

Glass covered plates 19 are secured to opposite sides of the casing 1 by means of rings 20 and screws 21 so that the thermometer is protected from the weather and is readable at all times both in the light and in the dark.

In the modification illustrated in Fig. 3, a float 22 is employed which constitutes a hollow member filled with luminous substance so that it is readily seen in the dark. With this form of my invention I dispense with the enlargement 14, and it is to be understood that when mercury is employed as an expansible liquid no enlargement of the float is needed, but where other liquids are employed it is advisable to have the enlarged end 14, as in the preferred form.

The theory is that the enlarged end used with liquids other than mercury provides a large displacement with slight immersion. It acts as a weight to keep the float centered in the tube and more readily follows the liquid in the tube. The high specific gravity of mercury causes it to support almost any type of float successfully so that the exact shape of the float used with this liquid is immaterial.

Various slight changes may be made in the general form and arrangement of parts described without departing from the in-

vention, and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such changes and alterations as fairly fall within the spirit
5 and scope of the appended claims.

I claim:

1. A device of the character described, comprising a casing, a cap, a tubular coupling connecting the casing and the cap, a
10 tube projecting into the casing and having a bulb thereon outside of the casing, a perforated shield secured to the coupling and inclosing said bulb, a float in the tube hav-
15 ing a mark at its upper end, an expansible liquid in the bulb for moving the float, a plate in the casing having luminously exhibited indicia registering with the marked

end of the float, and a transparent plate inclosing the casing.

2. A device of the character described, 20 comprising a casing, a cap, a tubular coupling connecting the casing and the cap, a tube projecting into the casing and having a bulb thereon outside the casing, a perforated shield secured to the coupling and
25 inclosing said bulb, a float in the tube having a mark at its upper end and an enlarged portion at its lower end, an expansible liquid in the bulb for moving the float, a plate in the casing having luminously ex-
30 hibited indicia registering with the marked end of the float, and a transparent plate inclosing the casing.

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